

WHAT IS CLAIMED IS:

1. An automatic coffee maker, comprising:

a base comprising a motor, a reduction gear, a main gear meshed with the reduction gear, a top mounting plate including a plurality of equally spaced first apertures around a center thereof, a driven gear including a plurality of equally spaced second apertures around a central hole thereof wherein the number of the second apertures is the same as that of the first apertures, a top annular first flange around the second apertures, and two opposite risers on a top of the first flange, a threaded pin inserted through the driven gear into the mounting plate for fastening, an electromagnetic valve mounted on the base and including an arm and resilient means anchored between one end of the arm and the base, a covering member pivotably disposed at one end of the arm and including an internal hot water line, and a door including a stop on a top end of a hinged shaft thereof, the stop being in contact with the arm;

an inner grinding mechanism comprising a spindle having a first lateral through hole, an internally threaded extension on a top of the spindle, and an externally threaded conic member in a lower portion, the conic member having a bottom recess with the threaded pin disposed therein;

an outer grinding mechanism sleeved on the inner grinding mechanism and comprising a toothed section having an inverted, conic upper portion and a conic lower portion meshed with the conic member, and an upper annular second flange having two opposite flats engaged with the risers;

hollow, cylindrical means comprising an annular top third flange and an annular bottom fourth flange having a diameter smaller than that of the third flange, the hollow, cylindrical means being tightly engaged with the flats and threadedly secured to the driven gear;

a circular seat comprising an intermediate, annular fifth flange, a side opening with a joining portion of the main gear and the driven gear mounted therein, a tubelike central casing with the spindle received therein, the casing having a second lateral through hole, a second pin inserted through the second and first lateral through holes for fastening the seat and the inner grinding mechanism together, an externally threaded extension on a top of the casing, and an annular groove on an underside with the third flange snugly fitted therein, the seat being threadably secured to the mounting plate;

a funnel-shaped container for containing coffee beans and comprising a tapering member rested on the fifth flange, an upper annular surface, and an indent on a top edge of the annular surface; and

a particle fineness adjusting mechanism comprising an inverted cup having inner threads secured to the externally threaded extension, a fastener driven a top of the inverted cup into the internally threaded extension for fastening the fineness adjusting mechanism and the inner grinding mechanism together, and a transverse bar extended from the inverted cup through the indent; whereby

responsive to placing a filter cup in the base and closing the door, activating the electromagnetic valve will move the covering member away from the first apertures and counterclockwise pivot the stop with the resilient means being expanded so that powering on the motor will activate the reduction gear and the main gear to transmit motion to the outer grinding mechanism via the risers for grinding the coffee beans into powder which drops through the aligned second and first apertures onto the filter cup prior to falling into a bowl in the base by permeation;

deactivating the electromagnetic valve will compress the resilient means to pivot the covering member back to cover the second and first apertures, and cause hot water to flow from the hot water line into the filter cup for diluting the coffee powder;

turning the bar in one direction will lower the conic member to lift the conic lower portion of the toothed section for increasing a space confined by the inner and outer grinding mechanisms, thereby making the coffee powder more coarse; and

5 turning the bar in an opposite direction will lift the conic member to lower the conic lower portion of the toothed section for decreasing the space, thereby making the coffee powder finer.

2. The automatic coffee maker of claim 1, wherein the resilient means is a tension spring.

3. The automatic coffee maker of claim 1, wherein the seat further comprises a plurality of equally spaced apart ribs interconnected the casing and an edge thereof.